

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : NEC CORP

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(54) ETCHANT

(57)Abstract:

PURPOSE: To enable the etching depth to be controlled not to exceed 100 μ m; or less as well as etchant to be used for a device process by a method wherein hydrochloric acid, hydrogen peroxide solution and water are mixed with one another within the specific range in respective volumic ratios.

CONSTITUTION: As for an etchant of $\text{Al}_x\text{Ga}_{1-x}\text{Sb}$ ($0 \leq x \leq 1$), hydrochloric acid, hydrogen peroxide solution and water are mixed with one another at the ratio of $w:y:z$ while the values of w, y, z are specified in volumic ratio within the range of $10 \leq w \leq 4, 0.0 \leq y \leq 5, 30 \leq z \leq 1000$. Then, any solutions in different rates can be produced by changing the mixing ratio of HCl, H_2O_2 , H_2O for example the etching rate can be decelerated by increasing the ratio of H_2O not to produce a thick surface oxide film etc. Through these procedures, the etching depth in 100 μ m; or less can be controlled enabling the oxide film to be thinned as well as a device comprising a material of this system to be manufactured.

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